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Parents' perception of cyberbullying of their children in Saudi Arabia

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Abstract:

BACKGROUND: The effect of cyberbullying varies from the small levels of discomfort to serious psychological and social issues. Studies on parents' perception of cyberbullying in Saudi Arabia are scarce. The aim of this study was to determine parents' awareness and perception of cyberbullying of their children in Saudi Arabia.

MATERIALS AND METHODS: A cross-sectional study was done on 1249 parents in Saudi Arabia using a standardized validated questionnaire. The questions were on cyberbullying and its association with the school, the difference between cyberbullying and traditional bullying, the importance of parents' attention and their knowledge of cyberbullying, and the platform on which they think cyberbullying occurs. Data were analyzed using SPSS version 24. Qualitative data were presented as frequencies and percentages while mean and standard deviation were computed for quantitative data. Student's t-test or Mann-Whitney and Kruskal-Wallis tests, as appropriate, were applied to test for statistical significance.

RESULTS: About 43% parents strongly agreed that cyberbullying was more harmful than bullying in the schoolyard. Parents reported that video games were the most common social platform for cyberbullying. About 64% parents strongly believed that cyberbullying caused psychological harm, and 78% parents responded that it was important to monitor the child's use of the Internet. Seventy-eight percent of parents strongly believed that schools should be proactive in addressing cyberbullying. As for the parents' role, 72.8% strongly believed that parents should be more proactive in addressing cyberbullying, whereas 27.9% thought that parents' involvement would reduce it. Most participants (75.1%) said that more laws should be passed to prevent or punish cyberbullying.

CONCLUSION: There is a need to raise the awareness of the Saudi community about the effects and consequences of cyberbullying.

Keywords:

Children, cyberbullying, parents', perception, Saudi

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Introduction

Bullying is defined as a threat or physical use of violence, aimed at an individual, a specific community or group, resulting in injury, death, physical damage, development disorders, or deficiency.^[1] Bullying is a significant common problem among children, especially in schools, that has possible effects on their mental health, self-esteem, and safety. Bullying,

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which has existed since ancient times, can be expressed physically, verbally, and indirectly as aggressive behavior that causes persistent damage against a weak victim.^[2] Based on an imbalance of power, it can be defined as systematic abuse of power.^[3]

International research reveals that 71% of adults^[4] and 87%–90% of teenagers and children in Europe have access to the Internet^[5] resulting in a novel type of bullying called "Cyberbullying," a unique form of bullying that has attracted a

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significant amount of attention and discussion in recent years, but little social support.^[6]

According to the National Crime Prevention Council: "Online bullying, called cyberbullying, happens when someone uses the Internet, cell phones, or any other devices to send or post text or photographs intended to hurt or embarrass another person."^[7] The impact of cyberbullying ranges from small distress levels to severe psychological and social problems such as a drop in grades, an increase in school absences, feeling of danger at school, mood disturbance (anxiety), and depression.^[8-10] In some extreme circumstances, unmonitored behaviors may lead victims to severe mental illness, and even worse with the taking of their life.^[11,12] Consequently, cyberbullying has become a significant concern of parents, educators, and policy-makers.^[10]

Parents are the most influential agents to children, playing a significant role in their children's well-being and emotional development.^[13] A strong emotional bond between parents and children makes it possible for parents to be aware of a child's desire to engage in criminal activity.^[13] Parent's knowledge of their children's online activities and experiences are essential to offering the best guidance and support.^[14]

Recent studies conducted in Turkey and worldwide between 2015 and 2017 found that approximately 25.5%–67.5% of adolescents were affected by cyberbullying.^[15] Another cross-sectional study done in Singapore in 2013 found that 34 suicide cases reported in <10 years involving teenagers below 18 years of age had been linked to cyberbullying.^[16]

A review study was done in the United States of America in 2011 in which 137 participants (62 adolescents; 75 parents) responded to a survey. The results indicated that 90% of the participants from the adolescent group had reported an experience of cyberbullying. Besides, 70% of the victims had been cyberbullied once or twice within a month, and 50% of the victims did not know the perpetrator. Second, 89% of the parent participants indicated that they knew about cyberbullying issues, and 89% reported that they did not know if their child had or had not been a victim of cyberbullying.^[17]

Locally, in Saudi Arabia, 86.8% of households have access to the Internet.^[18] According to a Reuters report of 2012, the rate of cyberbullying has risen from 18% to around 27% in Saudi Arabia.^[18] A study done in 2015 to assess cyberbullying among Saudi students in higher education found that 27% of the students had been involved in cyberbullying at least once or twice. Moreover, 57% of the students had witnessed at least one student being cyberbullied.^[19] In 2018, a study done to assess the

impact of cyberbullying's on Saudi kindergarten children found that some kindergarten children were unaware that cyberbullying was illegal behavior.^[20] To our knowledge, parents underestimated the consequences of cyberbullying and the importance of monitoring and controlling their children's online activities.^[21] Furthermore, no prior studies have been done in Saudi Arabia on parents' perceptions of cyberbullying of their school-age children.

Therefore, to obtain a more comprehensive picture, this cross-sectional study aimed to estimate parents' perception of cyberbullying of their children in Saudi Arabia in 2019.

Materials and Methods

A cross-sectional study was conducted in June and July 2019 in Saudi Arabia with 1249 parents (calculated by Roasoft sample size online calculator, with an estimated prevalence of 18% of cyberbullying in Saudi Arabia^[18] and with a margin of error of 5% and a confidence interval of 95%). The aim of our study was to estimate the parents' perception of cyberbullying of their children in Saudi Arabia in 2019. Ethical approval was obtained from the Institutional Review Board of King Abdulaziz University Hospital, Jeddah, vide Letter No. 486-19 dated 08/07/2019, and informed written consent was taken from all participants.

All respondents were the study participants after the application of the exclusion criteria. Parents were also invited to fill a questionnaire inspired by Bryan David Clarke called "parents" perception and Arabic awareness of cyberbullying.^[22] The back-translation method was done, whereby a healthcare physician and a translator specialist, fluent in both Arabic and English translated all questionnaire items into the Arabic language. The resulting Arabic questionnaire was translated by two other experts, fluent in both languages, back into English.^[23,24] The questionnaire was tested for reliability, and its Cronbach's Alpha was 0.766. After adding the Arabic translation, the questionnaire was announced on social networking sites and was distributed in all the major Saudi regions (Western, Eastern, Northern, Southern, and Middle area). There was a question at the beginning of the questionnaire that asked whether the respondent had a child. All those who had no children were excluded.

The estimation of parents' perception of cyberbullying of their children was considered the main objective of this study. The data were collected and shared in Arabic using a Google form. The questionnaire started with consent and stated that all the responses would remain confidential. At the beginning of the questionnaire was

the definition of cyberbullying, and demographic data were obtained. The questionnaire contained questions on cyberbullying and its association with school (whether parents thought it happened within or outside), the difference between cyberbullying and traditional bullying, whether it was more harmful or not, the importance of parents' attention and their knowledge of cyberbullying and how it affected their children, the platform on which they thought cyberbullying occurred, if they ever discussed cyberbullying with their children, and whether it was important to monitor their children and restrict their use to protect them. All the questions were scaled with options (strongly agree, agree, disagree, and strongly disagree) or (yes and no) scaling. For the eight attitude questions, a score of 1–4 was given to the response options with 4 to "strongly agree" response and 1 for the "strongly disagree" response leaving a score ranging from 8 to 23.

Data were analyzed using SPSS version 24 (IBM Corp., Armonk, NY). Qualitative data were presented as frequencies and percentages. Quantitative data were expressed as mean and standard deviation, and Mann-Whitney and Kruskal-Wallis tests were applied for not normally distributed data. Spearman's correlation analysis was done, and a $P < 0.05$ was considered statistically significant.

Results

Table 1 shows that 69.1% of the participants were the mothers of the children, and 62.5% had ages ranging from 30 to 60 years, 94.4% had Saudi nationality, and 53.6% had a Bachelor's degree. More than half of the participants (54.4%) were employed, 38.9% were from the western part of Saudi Arabia, and most of them (51.6%) had a monthly income <10000 Saudi Riyals (SR). The mean number of children was 4.22 ± 2.3 child.

Table 2 demonstrated that 25.6%, 21.5%, and 32.3% of the participants strongly agreed that cyberbullying was a problem in their children's school, occurred during school time and outside school, respectively. Of these, 70.5% and 42.7% strongly agreed that cyberbullying needed increased attention from parents and was more harmful than bullying in the schoolyard, respectively. Almost half (53.2%) strongly agreed that they discussed cyberbullying with their children, and 23.5%, 21.9%, and 71.8% reported that their children were likely to talk to them about cyberbullying, cyberbullying occurred less frequently than bullying, and they had heard or read that cyberbullying had contributed to suicide, respectively.

Figure 1 shows that 90.8%, 79.7%, and 72.1% of the participants thought that video games, Snapchat and

Table 1: Sociodemographic characteristics of the study participants (n=1249)

| Variable | N (%) |
|------------------------------|-------------|
| Guardian | |
| Father | 386 (30.9) |
| Mother | 863 (69.1) |
| Age (years) | |
| <30 | 199 (15.9) |
| 30-60 | 1030 (62.5) |
| >60 | 20 (1.6) |
| Nationality | |
| Saudi | 1179 (94.4) |
| Non-Saudi | 70 (5.6) |
| Level of education | |
| Less than high school | 125 (10.0) |
| High school | 301 (4.1) |
| Bachelor's degree | 669 (53.6) |
| Master's degree | 154 (12.3) |
| Occupation | |
| Employed | 679 (54.4) |
| Unemployed | 457 (36.6) |
| Retired | 113 (9.0) |
| KSA region | |
| Western area | 486 (38.9) |
| Eastern area | 190 (15.2) |
| Northern area | 267 (21.4) |
| Southern area | 191 (15.3) |
| Middle area | 115 (9.2) |
| Monthly income (SR) | |
| <10,000 | 644 (51.6) |
| 10000-<20,000 | 457 (36.6) |
| 20000-30,000 | 95 (7.6) |
| >30000 SR | 53 (4.2) |
| Number of children (mean±SD) | 4.22±2.3 |

SD=Standard deviation

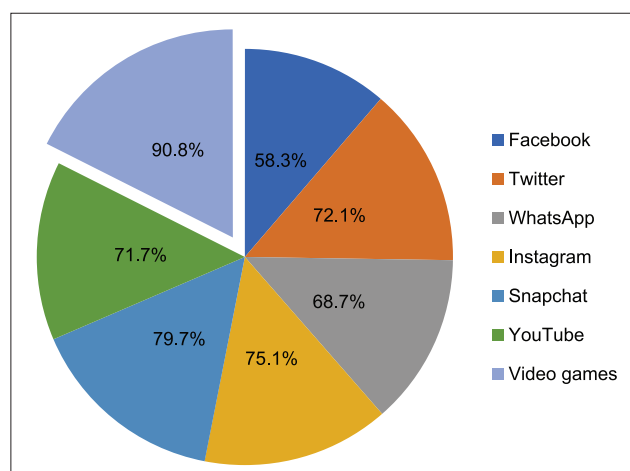


Figure 1: Percentage distribution of social platforms where cyberbullying occurs

Twitter were the most common social platforms on which cyberbullying occurred, respectively. Table 3 shows that 51.2% of the participants agreed that they used social media daily, 63.6%, had learned of cyberbullying from

Table 2: Distribution of the study participants according to their response to items related to cyberbullying (n=1249)

| | Strongly disagree N (%) | Disagree N (%) | Agree N (%) | Strongly agree N (%) |
|---|----------------------------|-------------------|----------------|-------------------------|
| Cyberbullying is a problem at my child's school | 66 (5.3) | 420 (33.6) | 443 (35.5) | 320 (25.6) |
| Cyberbullying occurs during school time | 54 (4.3) | 456 (36.5) | 471 (37.7) | 268 (21.5) |
| Cyberbullying occurs outside school | 23 (1.8) | 130 (10.4) | 693 (55.5) | 403 (32.3) |
| Cyberbullying is an issue that needs increased attention from parents | 6 (0.5) | 19 (1.5) | 344 (27.5) | 880 (70.5) |
| Cyberbullying is more harmful than bullying in the schoolyard | 20 (1.6) | 214 (17.1) | 482 (38.6) | 533 (42.7) |
| I have discussed cyberbullying with my child | 585 (46.8) | 0 | 0 | 664 (53.2) |
| My child is likely to talk to me about cyberbullying | 42 (3.4) | 331 (26.5) | 583 (46.7) | 293 (23.5) |
| Cyberbullying occurs less frequently than bullying in my child's school | 39 (3.1) | 318 (25.5) | 618 (49.5) | 274 (21.9) |
| I have heard or read that cyberbullying has contributed to suicide | 352 (28.2) | 0 | 0 | 897 (71.8) |

Table 3: Distribution of the study participants according to the frequency of social media use, sources of knowledge about cyberbullying, and their opinion about cyberbullying (n=1249)

| Variable | N (%) |
|--|------------|
| Do you use social media daily? | |
| Strongly disagree | 24 (1.9) |
| Disagree | 184 (14.7) |
| Agree | 640 (51.2) |
| Strongly agree | 401 (32.1) |
| I have learned about cyberbullying from the news on radio or TV | |
| No | 455 (36.4) |
| Yes | 794 (63.6) |
| My child's school has informed me about cyberbullying | |
| No | 965 (77.3) |
| Yes | 284 (22.7) |
| I learned about cyberbullying from my child | |
| No | 767 (61.4) |
| Yes | 482 (38.6) |
| I have done my own research or investigation about cyberbullying | |
| No | 592 (47.4) |
| Yes | 657 (52.6) |
| When a youth is cyberbullied, I believe there are some issues | |
| No | 328 (26.3) |
| Yes | 921 (73.7) |

the news on radio or TV, 2.7% were informed about cyberbullying from the child's school, 38.6% learned about cyberbullying from their children, and 52.6% had done some research on cyberbullying. Most of the participants (73.7%) saw that there were issues when a young person was cyberbullied.

On the participants' attitude toward cyberbullying, 63.7%, 73.9%, and 67.7% strongly believed that cyberbullying could cause psychological harm to their child, it was important to monitor their child's use of the Internet, place restrictions on their child's use of the Net, respectively. As for the school's role, 78.1% and 31.1% strongly believed that schools should be proactive

in addressing cyberbullying and should increase involvement in addressing it, respectively.

On the parents' role, 72.8% and 27.9% strongly believed that parents should be more proactive in addressing cyberbullying, and that parents' involvement would reduce it, respectively. Most participants (75.1%) saw that there should be more laws to prevent or punish cyberbullying [Table 4].

Table 5 illustrates that participants with a higher level of education, residents of the northern area, those with a monthly income <10,000 SR, and those who strongly agreed that they used social media daily had significantly higher mean attitude scores than other groups ($P \leq 0.05$). On the other hand, a nonsignificant difference was found between the mean attitude scores and other participants' character ($P \geq 0.05$). A nonsignificant positive correlation was found between the attitude scores and the number of children a participant had ($r = 0.04$, $P = 0.085$). As for the participants' response to two open open-end questions in the survey, one of the participants stated that "cyberbullying had serious psychological effects on the victim." Another said, it had a bad effect on the child's behavior.

Discussion

Our aim was to estimate the parents' perception of cyberbullying of their children in Saudi Arabia in 2019. The analysis of our data showed that 25.6% of parents strongly agreed that cyberbullying was a problem for their child's school. A survey which pooled 18,000 individuals residing in 24 nations, including Saudi Arabia in 2012 indicated that 80% of the respondents regarded cyberbullying as a serious issue. For most parents, social networking sites were the most frequently identified cyberbullying tool.^[18] The same was revealed from a previous study where participants believed that cyberbullying was a problem that needed to be addressed.^[22]

In a report issued in 2015 from International Computer Driving License (ICDL) Arabia, the Gulf Cooperation

Table 4: Attitude of the study participants towards cyberbullying (n=1249)

| Variable | N (%) |
|---|------------|
| I believe that cyberbullying can cause psychological harm to my child | |
| Strongly disagree | 8 (0.6) |
| Disagree | 27 (2.2) |
| Agree | 419 (33.5) |
| Strongly agree | 795 (63.7) |
| I believe it is important to monitor my child's use of the internet | |
| Strongly disagree | 3 (0.2) |
| Disagree | 30 (2.4) |
| Agree | 293 (23.5) |
| Strongly agree | 923 (73.9) |
| I believe it is important to place restrictions on my child's use of the internet | |
| Strongly disagree | 8 (0.6) |
| Disagree | 46 (3.7) |
| Agree | 349 (27.9) |
| Strongly agree | 846 (67.7) |
| Schools should be proactive in addressing cyberbullying | |
| Strongly disagree | 3 (0.2) |
| Disagree | 10 (0.8) |
| Agree | 261 (20.9) |
| Strongly agree | 975 (78.1) |
| Schools should increase involvement in addressing cyberbullying | |
| Strongly disagree | 134 (10.7) |
| Disagree | 461 (36.9) |
| Agree | 265 (21.2) |
| Strongly agree | 389 (31.1) |
| Parents should be more proactive in addressing cyberbullying | |
| Strongly disagree | 2 (0.2) |
| Disagree | 16 (1.3) |
| Agree | 322 (25.8) |
| Strongly agree | 909 (72.8) |
| Parents involvement in addressing cyberbullying would reduce it | |
| Strongly disagree | 207 (16.6) |
| Disagree | 446 (35.7) |
| Agree | 247 (19.8) |
| Strongly agree | 349 (27.9) |
| More laws should be passed to prevent or punish cyberbullying | |
| Strongly disagree | 5 (0.4) |
| Disagree | 16 (1.3) |
| Agree | 290 (23.2) |
| Strongly agree | 938 (75.1) |

Council (GCC) reported very high Internet penetration rates and was also one of the regions with the highest prevalence of Internet addiction. The report stated that 60% of GCC youth admitted to cyberbullying among their peers.^[25]

About 4% (42.7%) of the participants strongly agreed that cyberbullying was more harmful than bullying

in the schoolyard. Some studies suggested that the effects of cyberbullying were more severe than that of traditional bullying owing to the anonymity of the bully and the incessant messaging.^[26] On the other hand, a previous additional study indicated that there were as many or more victims of cyberbullying as traditional bullying.^[27] Furthermore, our findings showed that parents were aware of cyberbullying consequences and their effects.

We had an open-end question in the survey, and one of the participants stated, "cyberbullying had serious psychological effects on the victim." Another one said, "It affected the child's behavior in a bad way." A previous qualitative study supports the evidence of psychological harm of cyberbullying on children, and it indicated that 68% of the victims reported experiencing all emotional, social, and behavioral effects.^[28]

Our study showed that most parents agreed that cyberbullying was more harmful than traditional bullying, which concurs and correlates with previous research which found that cyberbullying could be insidious.^[29] Owing to the anonymity of the nature and spread of social platforms worldwide, it is easy for the perpetrator to reach a victim through the Internet. All it requires is a phone, laptop, or even a video game console.^[30]

According to our study, parents believed that video games were the most common source and the leading social platform for cyberbullying. In contrast to what author Clarke BD said,^[22] it was discovered that Facebook was the most common platform. This lack of accord in the results could be due to the variation in the use of the Internet by different countries.

According to the results, 71.8% of parents strongly agreed that cyberbullying might contribute to suicide. This result is consistent with a previous study that suggested that cyberbullying put the child at high risk for suicidal ideation more than their peers.^[31] Of the studied parents, 67.7% strongly believed that it was important to restrict the child's use of the Internet. In a study done in Malaysia for those who agreed (84%) that internet use should be monitored and restricted, only 40% would set rules on such service.^[31] In contrast, another research found that parents never worked on their child's safety on the Internet.^[32] This difference in engagement could be attributed to the considerable cultural and religious gap as the strict religious teaching and the laws applied in Western countries are not permissible in Saudi Arabia. In addition, owing to the variations in social and religious norms, filtering and tracking apps could not be applied in the Saudi culture.^[33] It was reported that several internet pages were blocked in Saudi Arabia, and most parents forbade their children from accessing the Internet.^[33]

Table 5: Relationship between attitude scores and participants' characteristics and frequency of use of social media (n=1249)

| Variable | Attitude score (mean±SD) | Test statistic | P-value |
|---|--------------------------|----------------|---------|
| Guardian | | | |
| Father | 27.47±3.07 | 0.13* | 0.892 |
| Mother | 27.46±2.71 | | |
| Age (years) | | | |
| <30 | 27.82±2.87 | 2.0** | 0.08 |
| 30-60 | 27.4±2.81 | | |
| >60 | 27.45±2.68 | | |
| Nationality | | | |
| Saudi | 27.48±2.81 | 0.74* | 0.457 |
| Non-Saudi | 27.22±3.11 | | |
| Level of education | | | |
| Less than high school | 26.79±2.68 | 3.0** | <0.001 |
| High school | 27.34±2.69 | | |
| Bachelor's degree | 27.51±3.07 | | |
| Master's degree | 28.07±2.98 | | |
| Occupation | | | |
| Employee | 27.46±2.88 | 2.0** | 0.737 |
| Unemployed | 27.52±2.72 | | |
| Retired | 27.26±2.89 | | |
| KSA region | | | |
| Western area | 27.25±2.46 | 4.0** | <0.001 |
| Eastern area | 27.13±2.58 | | |
| Northern area | 28.28±3.61 | | |
| Southern area | 27.51±2.64 | | |
| Middle area | 26.94±2.51 | | |
| Monthly income (SR) | | | |
| <10,000 | 27.90±2.85 | 3.0** | <0.001 |
| 10,000- <20,000 | 27.11±2.76 | | |
| 20,000-30,000 | 27±2.36 | | |
| >30,000 | 26.05±2.78 | | |
| Do you use social media on a daily basis? | | | |
| Strongly disagree | 26.87±3.18 | 3.1** | <0.001 |
| Disagree | 26.78±2.88 | | |
| Agree | 26.88±2.55 | | |
| Strongly agree | 28.75±2.76 | | |

*Mann-Whitney test, **Kruskal-Wallis test. SD=Standard deviation

In the current study, 78.1% and 31.1% of parents strongly believed that schools should be proactive in addressing cyberbullying and have increased involvement in addressing this issue, respectively. Espelage and Craven (2013) explained several ways schools could combat cyberbullying. They claimed anti-bullying policies that target the whole school (students, teachers, and parents) could change the school culture.^[34]

In the present study, almost all parents agreed that laws should be passed to prevent or punish cyberbullying. Furthermore, a previous result supported the view that enacting laws was effective and very helpful.^[22] A previous Saudi study found that parental management measures were inadequate if children were permitted to

use the Internet since children were always at risk online. The study called for an urgent need to educate Saudi parents to make them aware of various technologies to keep them safe.^[33]

A previous Saudi study done in 2018 found that the main predictors of Saudi parents' intention to control their children's online activities by using technological mediation methods are effort expectation, success expectation, general computer self-efficacy, perceived severity, and perceived vulnerability.^[33] In the present study, participants with higher education level had significantly higher mean attitude scores than other groups. According to Deisman, 2008, parents' awareness affected the awareness of safe Internet and computer usage of children and young people.^[35]

Simultaneously, the present study revealed that residents of the northern area and those with a monthly income <10,000 SR had significantly higher mean attitude scores than the rest. Careful literature survey indicates that no previous study had highlighted the relationship between parents' residence and income and their perception and attitude towards cyberbullying. Therefore, future national and international studies are encouraged.

A limitation of the present study is the cross-sectional design that revealed the association between variables but could not reveal causal relationships. Another difficulty was the inability to conduct a pilot study since it was an online survey.

Conclusion

Our aim in this study was to estimate parents' perception of cyberbullying of their children in Saudi Arabia in 2019. In general, we found that parents were aware of cyberbullying, but had some misconceptions. We, therefore, recommend that a comprehensive educational program, campaigns, and studies on cyberbullying and its possible consequences be done.

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Conflicts of interest

There are no conflicts of interest.

References

- Türkmen DN, Dokgöz MH, Akgöz SS, Eren BN, Vural HP, Polat HO. Bullying among High School Students. *Maedica (Bucur)* 2013;8:143-52.
- Committee on the Biological and Psychosocial Effects of Peer Victimization: Lessons for Bullying Prevention; Board on Children, Youth, and Families; Committee on Law and Justice; Division of Behavioral and Social Sciences and Education; Health and Medicine Division; National Academies of Sciences, Engineering, and Medicine. In: Rivara F, Le Menestrel S, editors. *Preventing Bullying Through Science, Policy, and Practice*. Washington (DC): National Academies Press (US); 2016; p. 14. 4, Consequences of Bullying Behavior. Available from: <https://www.ncbi.nlm.nih.gov/books/NBK390414/>. [Last accessed on 2020 Oct 05].
- Menesini E, Salmivalli C. Bullying in schools: The state of knowledge and effective interventions. *Psychol Health Med* 2017;22:240-53.
- Brandtzæga PB, Heima J, Karahasanovic A. Understanding the new digital divide – A typology of Internet users in Europe. *Int J Hum Comput Stud* 2011;69:123-38.
- Ólafsson K, Livingstone S, Haddon L. Children's Use of Online Technologies in Europe. A Review of the European Evidence Base. LSE, London: EU Kids Online. Revised edition; 2014. Available from: <file:///C:/Users/DELL/Downloads/ChildrensuseofonlinetechnologiesinEurope.pdf>. [Last accessed on 2020 Oct 27].
- Notar CE, Padgett S, Roden J. Cyberbullying: A review of the literature. *Univ J Educ Res* 2013;1:1-9.
- National Crime Prevention Council. Cyberbullying FAQ for Teens; 2016. Available from: <http://www.ncpc.org/topics/cyberbullying/cyberbullying-faq-for-teens>. [Last accessed on 2020 Oct 05].
- Ansary NS. Cyberbullying: Concepts, theories, and correlates informing evidence-based best practices for prevention. *Aggress Violent Behav* 2020;50:101343-51.
- Nixon CL. Current perspectives: The impact of cyberbullying on adolescent health. *Adolesc Health Med Ther* 2014;5:143-58.
- Talwar V, Gomez-Garibello C, Shariff S. Adolescents' moral evaluations and ratings of cyberbullying: The effect of veracity and intentionality behind the event. *Comput Hum Behav* 2014;36:122-8.
- Bottino SM, Bottino CM, Regina CG, Correia AV, Ribeiro WS. Cyberbullying and adolescent mental health: Systematic review. *Cad Saude Publica* 2015;31:463-75.
- Hinduja S, Patchin JW. *Bullying Beyond the Schoolyard: Preventing and Responding to Cyberbullying*. Corwin Press; 2014. Available from: https://books.google.com.eg/books/about/Bullying_Beyond_the_Schoolyard.html?id=SU5RTJcOk68C&redir_esc=y. [Last accessed on 2020 Oct 28].
- National Academies of Sciences, Engineering, and Medicine; Division of Behavioral and Social Sciences and Education; Board on Children, Youth, and Families; Committee on Supporting the Parents of Young Children. In: Breiner H, Ford M, Gadsden VL, editors. *Parenting Matters: Supporting Parents of Children Ages 0-8*. Washington (DC): National Academies Press (US); 2016. Parenting Knowledge, Attitudes, and Practices. Available from: <https://www.ncbi.nlm.nih.gov/books/NBK402020/>. [Last accessed on 2020 Oct 28].
- Jakobsen IS, Horwood LJ, Fergusson DM. Childhood anxiety/withdrawal, adolescent parent-child attachment and later risk of depression and anxiety disorder. *J Child Fam Stud* 2012;21:303-10.
- Eroglu Y, Aktepe E, Akbaba S, Isik A, Özkorumak E. The investigation of prevalence and risk factors associated with cyber bullying and victimization. *Egitim Bilim* 2015;40:93-107.
- Bakar HS. Investigating the Emergence themes of Cyberbullying Phenomenon: A Grounded Theory Approach. In 2013 IEEE 63rd Annual Conference International Council for Education Media (ICEM); 2013. p. 1-14.
- Wong-Lo M, Bullock LM. Digital aggression: Cyberworld meets school bullies. *Prev Sch Fail* 2011;55:64-70.
- Reuters. Cyberbullying a Problem Around the Globe: Poll; 2012. Available from: <http://www.reuters.com/article/2012/01/11/us-cyberbullying-poll-idUSTRE80A1FX20120111>. [Last accessed on 2020 Oct 05].
- Al-Zahrani AM. Cyberbullying among Saudi's higher-education students. *Implicat Educ Policymakers World J Educ* 2015;5:15-26.
- Allehyani SH. Cyberbullying and it's impact on the Saudi kindergarten children. *عالماتجالات و تاييناسن الاملول و ببدال و نونفلا لمل* 2018;2:307-29.
- Hong JS, Espelage DL, Rose CA. Bullying, peer victimization, and child and adolescent health: An introduction to the special issue. *J Child Fam Stud* 2019;28:2329-34.
- Clarke BD. Parents' Perceptions and Awareness of Cyberbullying of Children and Adolescents. (2013). Dissertations & Theses. 72. Antioch University, AURA - Antioch University Repository and Archive. Available from: <http://aura.antioch.edu/etds/72>. [Last accessed on 2020 Oct 05].
- Desouky DS. Problematic mobile phone and internet use: A comparative study between saudi and egyptian female adolescents. *Egypt Fam Med J* 2018;2:111-6.
- World Health Organization (WHO). Process of Translation and Adaptation of Instruments. World Health Organization (WHO); 2011. Available from: https://www.who.int/substance_abuse/research_tools/translation/en/. [Last accessed on 2020 Oct 12].
- ICDL Arabia. Cyber Safety Report Research Into the Online Behaviour of Arab Youth and the Risks they Face Data Collected in 2014. Available from: file:///C:/Users/DELL/Downloads/Reports-Cyber_Safety-2015-En.pdf. [Last accessed on 2020 Oct 17].
- Hellfeldt K, López-Romero L, Andershed H. Cyberbullying and psychological well-being in young adolescence: The potential protective mediation effects of social support from family, friends, and teachers. *Int J Environ Res Public Health* 2019;19:17:45-61.
- Asanan TZZ, Hussain IA, Laidey NM. A study on cyberbullying: Its forms, awareness and moral reasoning among youth. *Int J Media Commun* 2017;1:1-5.
- Dredge R, Gleeson J, De la Piedad Garcia X. Cyberbullying in social networking sites: An adolescent victim's perspective. *Comput Hum Behav* 2014;36:13-20.
- Wang CW, Musumari PM, Techasrivichien T, Suguimoto SP, Tateyama Y, Chan CC, et al. Overlap of traditional bullying and cyberbullying and correlates of bullying among Taiwanese adolescents: A cross-sectional study. *BMC Public Health* 2019;19:1756-70.
- Jang-Jaccard J, Nepa S. A survey of emerging threats in cybersecurity. *J Comput Sys Sci* 2014;80:973-93.
- Sran SK. Parents' Awareness and Perceptions on cyberbullying within Three Semi Urban Districts in Malaysia. Conference PAPER; 2017. Available from: [file:///C:/Users/DELL/Downloads/CyberbullyingAbstarct%20\(1\).pdf](file:///C:/Users/DELL/Downloads/CyberbullyingAbstarct%20(1).pdf). [Last accessed on 2020 Oct 15].
- Baldry AC, Sorrentino A, Farrington DP. Cyberbullying and cybervictimization versus parental supervision, monitoring and

- control of adolescents' online activities. Child Youth Serv Rev 2019;96:302-7.
33. Al-Naim AB, Hasan M. Investigating Saudi parents' intention to adopt technical mediation tools to regulate children's internet usage. Int J Adv Comput Sci Appl 2018;9:456-64.
 34. Espelage DL, Rao MA, Craven R. Relevant theories for cyberbullying research. In: Bauman S, Walker J, Cross D, editors. Principles of Cyberbullying Research: Definition, Methods, and Measures. NY & London: Routledge; 2013.
 35. Deisman WW. Securing Cyberspace: Neo-Liberalism, Risk and Child Safety. A Thesis Submitted to The Faculty of Graduate Studies and Research in Partial Fulfillment of the Requirements for the Degree of Doctor of Philosophy Department of Sociology and Anthropology, Carleton University, Ottawa, Ontario. Unpublished Doctorate Dissertation. Available from: file:///C:/Users/DELL/Downloads/Securing_Cyberspace_Neo_Liberalism_Risk.pdf. [Last accessed on 2020 Oct 23].